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EXAMINER
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ART UNIT	PAPER NUMBER
2154	

DATE MAILED: 06/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Office Action Summary	Application No.	Applicant(s)
		09/653,073	HLASNY, DARYL
		Examiner	Art Unit	
		Ashok B. Patel	2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>01 April 2005</u>.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-24</u> is/are pending in the application.

    4a) Of the above claim(s) <u>21</u> is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-20 and 22-24</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   Claims 1-24 are subject to examination. Claim 21 has been cancelled.

Response to Arguments

2.   Applicant's arguments with respect to claims 1-24 have been considered but are

moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4.   Claims 1-5, 10, 13-15 are rejected under 35 U.S.C. 102(b) as being anticipated

by Birdwell et al. (hereinafter Birdwell) (US 5, 793, 973).

Referring to claim 1,

Birdwell teaches a method of transferring data from a distributor to a plurality of

recipients (Figs. 1 and 2) comprising the steps of:

    (a) broadcasting unreceived data to said plurality of recipients (col. 3, line 47-49);

    (b) repeating step (a) until a time for the completion of transferring said

unreceived data by point-to-point communication with said recipients obtains a

predetermined relationship to a time for the completion of said broadcasting; and,

    (c) thereafter, completing said transferring of said unreceived data by point-to-

point communication with at least one of said plurality of recipients. (col. 3, line

61 through col. 4, line 17).

Referring to claim 2,

Birdwell teaches the method of claim 1 wherein the step of repeating said broadcasting of unreceived data until a time for transferring said unreceived data by point-to-point communication with said recipients obtains a predetermined relationship to a time for said broadcasting comprises the steps of:

(a) estimating a time to transfer said unreceived data by point-to-point communication with said recipients (col. 3, line 39-43), and

(b) repeating said broadcasting of unreceived data if said time to transfer said unreceived data by point-to-point communication is greater than said time to broadcast said data. (col. 11, line 22-44)

Referring to claim 3,

Birdwell teaches the method of claim 2 wherein the step of estimating a time to transfer said unreceived data by point-to-point communication with said recipients comprises the steps of: (a) polling at least one recipient to identify for data unreceived by said recipient; (b) estimating a time to successfully transfer said unreceived data to said recipient by point-to-point communication; and (c) summing said estimated times to successfully transfer said unreceived data to recipients reporting unreceived data. (col. 2, line 66 through col. 3, line 14, col. 3, line 39-47)

Referring to claim 4,

Birdwell teaches the data transfer method of claim 1 wherein the step of repeating broadcast of said unreceived data until a time for transferring said unreceived data by

point-to-point communication with said recipients obtains a predetermined relationship

to a time for said broadcasting comprises the steps of:

(a) estimating a time to transfer said unreceived said data by point-to-point

communication with said recipients, (col. 2, line 66 through col. 3, line 14, col. 3, line 39-

47)

(b) estimating remaining unreceived data following an additional broadcast of

said data (col. 3, line 61 through col. 4, line 17); and

(c) rebroadcasting said unreceived data if said time to transfer said unreceived

data by point-to-point communication with said recipients is greater than a sum

of said time to broadcast said data and a time to transfer said remaining said

unreceived data by point-to-point communication (col. 3, line 61 through col. 4, line 17).

Referring to claim 5,

Birdwell teaches the method of claim 4 wherein the step of estimating a time to transfer

said unreceived data by point-to-point communication with said recipients comprises the

steps of:

(a) polling at least one recipient to identify unreceived data for said recipient; (b)

estimating a time to successfully transfer said unreceived data to said recipient by point

to point communication; and (c) summing said estimated times to successfully transfer

said unreceived data to recipients reporting unreceived data. (col. 2, line 66 through col.

3, line 14, col. 3, line 39-47).

Referring to claim 10,

Birdwell teaches a method of transferring data from a data distributor to a plurality of

data recipients (Figs 1 and 2)comprising the steps of:

(a) broadcasting unreceived data to said plurality of recipients (col. 3, line 47-49);

(b) polling at least one said recipient to identify unreceived data;

(c) estimating a time for the completion of transferring said unreceived data to

said plurality of recipients by point-to-point communication with said recipients (col. 3,

line 39-43),

(d) repeating steps (a) through (c) until said point-to-point communication time

achieves a predetermined relationship to a time required for the completion of

transferring said unreceived data to said plurality of recipients by broadcasting t

said data (col. 11, line 22-44, (col. 3, line 61 through col. 4, line 17); and,

(f) thereafter, completing said transferring of said unreceived data by point-to-point

communication with said plurality of recipients (col. 3, line 61 through col. 4, line 17).

Referring to claim 13,

Birdwell teaches the method of claim 10 wherein the step of repeating said broadcasting

of said unreceived data until said time to transfer said unreceived data by point-to-point

communication with said recipients achieves a predetermined relationship to said time

for said broadcasting comprises the steps of:

(a) determining a time to transfer said unreceived data by point-to-point communication

with each said recipient (col. 2, line 65 – col. 3, line 10),

(b) estimating remaining unreceived data to be transferred after an additional broadcast

of said data; and (c) broadcasting said unreceived data again if said time to transfer

said unreceived data by point-to-point communication with said recipients is greater

than a sum of said time to broadcast said data and a time to transfer said estimated

remaining .unreceived data by point-to-point communication. (col. 3, line 61-col. 4, line

17)

Referring to claim 14,

Birdwell teaches the data transfer method of claim 10 wherein the step of repeating said

broadcasting of said unreceived data until a time for transferring said unreceived data

by point-to-point communication with said recipients achieves a predetermined

relationship to a time for said data broadcasting comprises the steps of:

(a) determining a time to transfer said unreceived data by point-to-point

communication with each recipient (col. 2, line 65 – col. 3, line 10),, and

(b) repeating said data broadcasting if said time to transfer said unreceived data

by point-to-point communication is greater than said time to broadcast said data. (col. 3,

line 61-col. 4, line 17)

Referring to claim 15,

Birdwell teaches the method of claim 10 further comprising the step of transmitting said

unreceived data by point-to-point communication following a predetermined number of

broadcasts of said data. (col. 2, line 65 – col. 3, line 10),,

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
>
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
>
> the prior art are such that the subject matter as a whole would have been obvious at the time the
>
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
>
> Patentability shall not be negatived by the manner in which the invention was made.

6.   Claims 6-8, 11, 12, 16-20, 22-24 are rejected under 35 U.S.C. 103(a) as being

Unpatentable over Birdwell et al. (hereinafter Birdwell) (US 5, 793, 973) in view of

Iwamura et al. (hereinafter Iwamura) (US 6, 396, 814).

Referring to claim 6,

Birdwell teaches a method of transferring a plurality of data units from a

distributor to a plurality of recipients (Figs 1 and 2) comprising the steps of:

(b) broadcasting unreceived data units to said recipients(col. 3, line 47-49);

(d) polling at least one said recipient to identify data units not successfully received by

said polled ones of said plurality of recipients; and (e) transferring said unreceived data

units by point-to-point communication. (col. 3, line 61 through col. 4, line 17).

Birdwell fails to teach (a) designating a representative recipient; (c) repeating

step (b) until said representative acknowledges successful receipt of said plurality of

data units.

Iwamura teaches the communication network construction method (a)

designating a representative recipient (col.14, lines 32-40); and (c) repeating step (b)

until said representative acknowledges successful receipt of said plurality of data units (col.14, lines 43-45).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made to enhance the teachings of Birdwell by the capabilities of the representative device of Iwamura such that the representative device alone will have to communicate with the devices in the group as well as the other representative devices in the network such as any other broadcasting device. The representative devices not only reduce the device messages providing the configuration management information but also, in the handshake between the devices of different groups, have the function to consolidate the response messages and to prevent the increase in the number of messages that a device is required to receive at a time, as explained by Iwamura.

Referring to claims 7 and 8,

Keeping in mind the teachings of Birdwell as stated above, Birdwell teaches (a) broadcasting a plurality of data units to said recipients (col. 3, line 47-49); (b) polling at least one said recipient to establish success in receiving said data units; and (b) polling a recipient following a broadcast of said data units to identify said unreceived data units for said polled recipient; (c) repeating step (b) for a plurality of recipients; (col. 3, line 61 through col. 4, line 17).

Birdwell fails to teach (c) designating as said representative said recipient having said success most representative of said success of said plurality of recipients, and (d)

designating as said representative a recipient reporting unreceived data most representative of that reported by said polled ones of said plurality of recipients.

Iwamura teaches the communication network construction method wherein how the group is formed and how a representative is selected, what communication capabilities the grouped devices have and the group representative has, thereby it teaches the claimed elements in the context of the broadcasting. (col. 13, lines 58-59, "This graph is considered to represent the status of the network at a given time point", lines 63 thru col. 14, lines 1-50, Note: "First, in order to produce the graph of FIG. 2, each device broadcasts a device message. The device message includes the information on the device broadcasting it and the information on the communicable devices determined taking the device messages from other devices into consideration. Each device judges whether it can or cannot communicate with other devices by receiving a device message from them. Further, the information on the communicable devices thus identified is broadcast with a device message, upon receipt of which each device can collect the data required for constructing the graph of FIG. 2.", and "Similarly, the device message exchanged in each group is the one relating to the devices belonging to the particular group.").

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made to enhance the teachings of Birdwell by the capabilities of the representative device of Iwamura such that the representative device alone will have to communicate with the devices in the group as well as the other representative devices in the network such as any other broadcasting device. The representative

devices not only reduce the device messages providing the configuration management information but also, in the handshake between the devices of different groups, have the function to consolidate the response messages and to prevent the increase in the number of messages that a device is required to receive at a time, as explained by Iwamura.

Referring to claim 9,

Birdwell teaches the   method of claim 6 further comprising the steps of: (a) a first recipient reporting success in receiving said data units from said first broadcast; and (b) another recipient reporting success in receiving said data units from another broadcast. (col. 3, line 61 through col. 4, line 17).

Referring to claim 11,

Birdwell teaches the method of claim 10 wherein the step of polling at least one recipient following a broadcast of said data to identify said unreceived data comprises the (col. 3, line 61-col. 4, line 17) steps of:

(a) polling a plurality of said recipients following a broadcast of said data to identify said unreceived data for each said polled recipient (col. 3, line 61-col. 4, line 17).

Birdwell fails to teach (b) identifying a representative recipient reporting said unreceived data most representative of said unreceived data reported by all polled recipients; and (c) said representative recipient reporting the identify said unreceived data on behalf of all said recipients following a subsequent broadcast.

Iwamura teaches the communication network construction method wherein how

the group is formed and how a representative is selected, what communication

capabilities the grouped devices have and the group representative has, thereby it

teaches the claimed elements in the context of the broadcasting. (col. 13, lines 58-59,

"This graph is considered to represent the status of the network at a given time point",

lines 58-59, "This graph is considered to represent the status of the network at a given

time point", lines 63 thru col. 14, lines 1-50, Note: "First, in order to produce the graph of

FIG. 2, each device broadcasts a device message. The device message includes the

information on the device broadcasting it and the information on the communicable

devices determined taking the device messages from other devices into consideration.

Each device judges whether it can or cannot communicate with other devices by

receiving a device message from them. Further, the information on the communicable

devices thus identified is broadcast with a device message, upon receipt of which each

device can collect the data required for constructing the graph of FIG. 2.", and

"Similarly, the device message exchanged in each group is the one relating to the

devices belonging to the particular group.").

Therefore, it would have been obvious to one having ordinary skill in the art at

the time of invention was made to enhance the teachings of Birdwell by the capabilities

of the representative device of Iwamura such that the representative device alone will

have to communicate with the devices in the group as well as the other representative

devices in the network such as any other broadcasting device. The representative

devices not only reduce the device messages providing the configuration management

information but also, in the handshake between the devices of different groups, have

the function to consolidate the response messages and to prevent the increase in the

number of messages that a device is required to receive at a time, as explained by

Iwamura.

Referring to claim 12,

Birdwell teaches the method of claim 10 wherein the step of polling at least one

recipient following a broadcast of said data to identify said unreceived data comprises

the steps of: (a) polling a first recipient following a broadcast to identify said unreceived

data for said polled first recipient;(b) polling a second recipient following another

broadcast of said data to identify said unreceived data for said polled second recipient;

(c) repeating step (b) for ell a plurality of polled second recipients (col. 3, line 61- col. 4,

line 17)

Birdwell fails to teach (d) identifying a representative second recipient reporting

unreceived data most representative of said unreceived data reported by said plurality

of polled second recipients; and, (e) thereafter, said representative second recipient

reporting said unreceived data for said plurality of data recipients following a broadcast

of said data.

Iwamura teaches the communication network construction method wherein how

the group is formed and how a representative is selected, what communication

capabilities the grouped devices have and the group representative has, thereby it

teaches the claimed elements in the context of the broadcasting. (col. 13, lines 58-59,

"This graph is considered to represent the status of the network at a given time point",

lines 63 thru col. 14, lines 1-50, Note: "First, in order to produce the graph of FIG. 2,

each device broadcasts a device message. The device message includes the

information on the device broadcasting it and the information on the communicable

devices determined taking the device messages from other devices into consideration.

Each device judges whether it can or cannot communicate with other devices by

receiving a device message from them. Further, the information on the communicable

devices thus identified is broadcast with a device message, upon receipt of which each

device can collect the data required for constructing the graph of FIG. 2.", and

"Similarly, the device message exchanged in each group is the one relating to the

devices belonging to the particular group.").

Therefore, it would have been obvious to one having ordinary skill in the art at

the time of invention was made to enhance the teachings of Birdwell by the capabilities

of the representative device of Iwamura such that the representative device alone will

have to communicate with the devices in the group as well as the other representative

devices in the network such as any other broadcasting device. The representative

devices not only reduce the device messages providing the configuration management

information but also, in the handshake between the devices of different groups, have

the function to consolidate the response messages and to prevent the increase in the

number of messages that a device is required to receive at a time, as explained by

Iwamura.

Referring to claim 16,

Birdwell teaches a method of transferring data from a data distributor to a

plurality of data recipients (Figs. 1 and 2) comprising the steps of:

(a) broadcasting unreceived data to said recipients (col. 3, line 47-49);

(b) polling said recipients to identify unreceived data (col. 3, line 60-col. 4, line 17);

(d) estimating a time for transferring unreceived data to said plurality of recipients by

point-to-point communication with each recipient;(col. 2, line 65-col. 3, line 10)

(e)rebroadcasting said data to said recipients if said estimated time to transfer

said unreceived data by point-to-point communication is less than a time required

to broadcast said data; (col. 3, line 25-59)

(g) repeating steps (c), (d), and (e) until said estimated time to transfer said

unreceived data by point-to-point communication is less than a time required to

broadcast said data; and (h) thereafter transferring said unreceived data by point-to-

point communication with said data recipients.(col. 3, line 60-col. 4, line 17)

Birdwell fails to teach (c) identifying a representative recipient reporting

unreceived data most representative of said unreceived data reported by said polled

data recipients', (f) polling said representative to identify said unreceived data.

Iwamura teaches the communication network construction method wherein how

the group is formed and how a representative is selected, what communication

capabilities the grouped devices have and the group representative has, thereby it

teaches the claimed elements in the context of the broadcasting. (col. 14, lines 32-45,

col. 13, lines 58-59, "This graph is considered to represent the status of the network at

a given time point", lines 63 thru col. 14, lines 1-50, Note: "First, in order to produce the

graph of FIG. 2, each device broadcasts a device message. The device message

includes the information on the device broadcasting it and the information on the

communicable devices determined taking the device messages from other devices into

consideration. Each device judges whether it can or cannot communicate with other

devices by receiving a device message from them. Further, the information on the

communicable devices thus identified is broadcast with a device message, upon receipt

of which each device can collect the data required for constructing the graph of FIG. 2.",

and "Similarly, the device message exchanged in each group is the one relating to the

devices belonging to the particular group.").

Therefore, it would have been obvious to one having ordinary skill in the art at

the time of invention was made to enhance the teachings of Birdwell by the capabilities

of the representative device of Iwamura such that the representative device alone will

have to communicate with the devices in the group as well as the other representative

devices in the network such as any other broadcasting device. The representative

devices not only reduce the device messages providing the configuration management

information but also, in the handshake between the devices of different groups, have

the function to consolidate the response messages and to prevent the increase in the

number of messages that a device is required to receive at a time, as explained by

Iwamura.

Referring to claim 17,

Birdwell teaches a method of transferring a plurality of data units from a

distributor to a plurality of recipients (figs 1 and 2) comprising the steps of:

(a) broadcasting a plurality of data units to said recipients (col. 3, line 47-49);

(b) polling at least one said recipient to establish success in receiving said data

units; (c) comparing said success of at least two recipients,(Fig. 2, col. 6 line 12-col. 7,

line 30); (e) broadcasting data units to said recipients; (g) polling at least one said

recipient to identify data units not successfully received by said recipient', and,(h)

thereafter, transferring said unreceived data units to said recipient by point-to-point

communication. (col. 3, line 25-59, col. 3, line 60-col. 4, line 17)

Birdwell fails to teach (d) designating as a representative said recipient having

said success most representative of said success of said plurality of recipients;

 (f) repeating step (e) until said representative acknowledges successful receipt of said

plurality of data units.

The reference Iwamura teaches the communication network construction method

wherein how the group is formed and how a representative is selected, what

communication capabilities the grouped devices have and the group representative has,

thereby it teaches the claimed elements in the context of the broadcasting. (col.14, lines

32-45, col. 13, lines 58-59, "This graph is considered to represent the status of the

network at a given time point", lines 63 thru col. 14, lines 1-50, Note: "First, in order to

produce the graph of FIG. 2, each device broadcasts a device message. The device

message includes the information on the device broadcasting it and the information on

the communicable devices determined taking the device messages from other devices

into consideration. Each device judges whether it can or cannot communicate with

other devices by receiving a device message from them. Further, the information on the

communicable devices thus identified is broadcast with a device message, upon receipt

of which each device can collect the data required for constructing the graph of FIG. 2.",

and "Similarly, the device message exchanged in each group is the one relating to the

devices belonging to the particular group.").

Therefore, it would have been obvious to one having ordinary skill in the art at

the time of invention was made to enhance the teachings of Birdwell by the capabilities

of the representative device of Iwamura such that the representative device alone will

have to communicate with the devices in the group as well as the other representative

devices in the network such as any other broadcasting device. The representative

devices not only reduce the device messages providing the configuration management

information but also, in the handshake between the devices of different groups, have

the function to consolidate the response messages and to prevent the increase in the

number of messages that a device is required to receive at a time, as explained by

Iwamura.

Referring to claim 18,

Birdwell teaches a method of transferring a plurality of data units from a

distributor to a plurality of recipients (Figs. 1 and 2)comprising the steps of:

(a) broadcasting said plurality of data units to said recipients (col. 3, line 47-49); (b) a

first recipient identifying unreceived data following a broadcast of said data; (c)

rebroadcasting said plurality of data units to said recipients; (d) another recipient

identifying unreceived data following said rebroadcast of said data; (e) comparing said

unreceived data identified by said recipient and said unreceived data identified said

another recipient; (Fig. 2, col. 6, line 12-col. 7, line 30); (h) polling at least one said

recipient to identify data units not successfully received by said recipient; and, (i)

thereafter, transferring said unreceived data units to said recipient by point-to-point

communication. (col. 3, line 60- col. 4, line 17, col. 3, line 25-59).

Birdwell fails to teach (f) designating as representative recipient a recipient

reporting unreceived data most typical of unreceived data reported by said recipients;(g)

broadcasting said data units until said representative acknowledges successful

receipt of said plurality of data units;

Iwamura teaches the communication network construction method wherein how

the group is formed and how a representative is selected, what communication

capabilities the grouped devices have and the group representative has, thereby it

teaches the claimed elements in the context of the broadcasting. (col.14, lines 32-45,

col. 13, lines 58-59, "This graph is considered to represent the status of the network at

a given time point", lines 63 thru col. 14, lines 1-50, Note: "First, in order to produce the

graph of FIG. 2, each device broadcasts a device message. The device message

includes the information on the device broadcasting it and the information on the

communicable devices determined taking the device messages from other devices into

consideration. Each device judges whether it can or cannot communicate with other

devices by receiving a device message from them. Further, the information on the

communicable devices thus identified is broadcast with a device message, upon receipt

of which each device can collect the data required for constructing the graph of FIG. 2.",

and "Similarly, <u>the device message exchanged in each group is the one relating to the</u> <u>devices belonging to the particular group</u>.").

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made to enhance the teachings of Birdwell by the capabilities of the representative device of Iwamura such that the representative device alone will have to communicate with the devices in the group as well as the other representative devices in the network such as any other broadcasting device. The representative devices not only reduce the device messages providing the configuration management information but also, in the handshake between the devices of different groups, have the function to consolidate the response messages and to prevent the increase in the number of messages that a device is required to receive at a time, as explained by Iwamura.

Referring to claim 19,

Birdwell teaches a method of transferring a plurality of data units from a distributor to a plurality of recipients (Figs. 1 and 2)comprising the steps of: (b) broadcasting a data unit to said plurality of recipients; (c) repeating step (b) until said representative recipient acknowledges successful receipt of said data unit; (e) polling at least one said plurality of recipients to identify data units not successfully received by polled ones of said plurality of recipients; and (f) transferring unreceived said data units by point-to-point communication. (col. 3, line 25 through col. 4, line 17)

Birdwell fails to teach (a) designating a representative recipient; and (d) repeating steps (b) and (c) for a plurality of data units.

Iwamura teaches the communication network construction method wherein how

the group is formed and how a representative is selected, what communication

capabilities the grouped devices have and the group representative has, thereby it

teaches the claimed elements in the context of the broadcasting. (col.14, lines 32-45,

col. 13, lines 58-59, "This graph is considered to represent the status of the network at

a given time point", lines 63 thru col. 14, lines 1-50, Note: "First, in order to produce the

graph of FIG. 2, each device broadcasts a device message. The device message

includes the information on the device broadcasting it and the information on the

communicable devices determined taking the device messages from other devices into

consideration. Each device judges whether it can or cannot communicate with other

devices by receiving a device message from them. Further, the information on the

communicable devices thus identified is broadcast with a device message, upon receipt

of which each device can collect the data required for constructing the graph of FIG. 2.",

and "Similarly, the device message exchanged in each group is the one relating to the

devices belonging to the particular group.").

Therefore, it would have been obvious to one having ordinary skill in the art at

the time of invention was made to enhance the teachings of Birdwell by the capabilities

of the representative device of Iwamura such that the representative device alone will

have to communicate with the devices in the group as well as the other representative

devices in the network such as any other broadcasting device. The representative

devices not only reduce the device messages providing the configuration management

information but also, in the handshake between the devices of different groups, have

the function to consolidate the response messages and to prevent the increase in the number of messages that a device is required to receive at a time, as explained by Iwamura.

Referring to claim 20,

Keeping in mind the teachings of Birdwell, Birdwell teaches (a) broadcasting a plurality of data units to said recipients; (b) polling at least one said recipient to establish success in receiving said data units; (col. 3, line 60-col. 4, line 17) .

Birdwell fails to teach (c) designating as said representative said recipient having said success most representative of said success of said plurality of recipients.

Iwamura teaches the communication network construction method wherein how the group is formed and how a representative is selected, what communication capabilities the grouped devices have and the group representative has, thereby it teaches the claimed elements in the context of the broadcasting. (col.14, lines 32-45, col. 13, lines 58-59, "This graph is considered to represent the status of the network at a given time point", lines 63 thru col. 14, lines 1-50, Note: "First, in order to produce the graph of FIG. 2, each device broadcasts a device message. The device message includes the information on the device broadcasting it and the information on the communicable devices determined taking the device messages from other devices into consideration. Each device judges whether it can or cannot communicate with other devices by receiving a device message from them. Further, the information on the communicable devices thus identified is broadcast with a device message, upon receipt of which each device can collect the data required for constructing the graph of FIG. 2.",

and "Similarly, <u>the device message exchanged in each group is the one relating to the devices belonging to the particular group</u>.").

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made to enhance the teachings of Birdwell by the capabilities of the representative device of Iwamura such that the representative device alone will have to communicate with the devices in the group as well as the other representative devices in the network such as any other broadcasting device. The representative devices not only reduce the device messages providing the configuration management information but also, in the handshake between the devices of different groups, have the function to consolidate the response messages and to prevent the increase in the number of messages that a device is required to receive at a time, as explained by Iwamura.

Referring to claim 22,

Birdwell teaches the method of claim 19 further comprising the steps of: (a) a first recipient reporting success in receiving said data units from said first broadcast; and (b) another recipient reporting success in receiving said data units from another broadcast. (fig. 2, col. 6, line 12-col. 7, line 30)

Referring to claim 23,

Birdwell teaches a method of transferring a plurality of data units from a distributor to a plurality of recipients comprising the steps of: (a) broadcasting a plurality of data units to said recipients (col. 3, line 47-49); (b) polling at least one said recipient to establish success in receiving said data units; (d) broadcasting a data unit to said

recipients; (g) polling at least one said recipient to identify data units not successfully

received by said recipient', and, (h) thereafter, transferring said unreceived data units to

said recipient by point-to-point communication. 9col. 3, line 25- col. 4, line 17)

Birdwell fails to teach (c) designating as a representative said polled recipient

having said success most representative of said success of said plurality of recipients;

(e) repeating step (d) until said representative acknowledges successful receipt of said

data unit; (f) repeating steps (d) and (e) until said representative acknowledges

successful receipt of said plurality of data units.

Iwamura teaches the communication network construction method wherein how

the group is formed and how a representative is selected, what communication

capabilities the grouped devices have and the group representative has, thereby it

teaches the claimed elements in the context of the broadcasting. (col.14, lines 32-45,

col. 13, lines 58-59, "This graph is considered to represent the status of the network at

a given time point", lines 63 thru col. 14, lines 1-50, Note: "First, in order to produce the

graph of FIG. 2, each device broadcasts a device message. The device message

includes the information on the device broadcasting it and the information on the

communicable devices determined taking the device messages from other devices into

consideration. Each device judges whether it can or cannot communicate with other

devices by receiving a device message from them. Further, the information on the

communicable devices thus identified is broadcast with a device message, upon receipt

of which each device can collect the data required for constructing the graph of FIG. 2.",

and "Similarly, the device message exchanged in each group is the one relating to the devices belonging to the particular group.").

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made to enhance the teachings of Birdwell by the capabilities of the representative device of Iwamura such that the representative device alone will have to communicate with the devices in the group as well as the other representative devices in the network such as any other broadcasting device. The representative devices not only reduce the device messages providing the configuration management information but also, in the handshake between the devices of different groups, have the function to consolidate the response messages and to prevent the increase in the number of messages that a device is required to receive at a time, as explained by Iwamura.

Referring to claim 24,

Birdwell teaches a method of transferring a plurality of data units from a distributor to a plurality of recipients (Figs. 1 and 2) comprising the steps of: (a) broadcasting said plurality of data units to said plurality of recipients (col. 3, line 47-49); (b) identification of unreceived data by a first recipient following said broadcast of said data;(c) rebroadcasting said plurality of data units to said plurality of recipients;(d) identification of unreceived data by another recipient following said rebroadcast of said data;(e) comparing said unreceived data identified by said first recipient and unreceived data identified by said another recipient; (i) polling at least one said recipient to identify data units not successfully received by said plurality of recipients; and (j) thereafter,

transferring unreceived data units by point-to-point communication. (Fig. 2, col. 6, line 12-col. 7, line 29, col. 3, line 60-col. 4, line 17).

Birdwell fails to teach (f) designating as representative recipient a recipient reporting unreceived data most typical of unreceived data reported by all said plurality of recipients;(g) broadcasting a data unit until said representative acknowledges successful receipt of said of data unit;(h) repeating step (g) for said plurality of said data units.

Iwamura teaches the communication network construction method wherein how the group is formed and how a representative is selected, what communication capabilities the grouped devices have and the group representative has, thereby it teaches the claimed elements in the context of the broadcasting. (col.14, lines 32-45, col. 13, lines 58-59, "This graph is considered to represent the status of the network at a given time point", lines 63 thru col. 14, lines 1-50, Note: "First, in order to produce the graph of FIG. 2, each device broadcasts a device message. The device message includes the information on the device broadcasting it and the information on the communicable devices determined taking the device messages from other devices into consideration. Each device judges whether it can or cannot communicate with other devices by receiving a device message from them. Further, the information on the communicable devices thus identified is broadcast with a device message, upon receipt of which each device can collect the data required for constructing the

graph of FIG. 2.", and "Similarly, <u>the device message exchanged in each group</u>

<u>is the one relating to the devices belonging to the particular group.</u>").

Therefore, it would have been obvious to one having ordinary skill in the

art at the time of invention was made to enhance the teachings of Birdwell by the

capabilities of the representative device of Iwamura such that the representative

device alone will have to communicate with the devices in the group as well as

the other representative devices in the network such as any other broadcasting

device. The representative devices not only reduce the device messages

providing the configuration management information but also, in the handshake

between the devices of different groups, have the function to consolidate the

response messages and to prevent the increase in the number of messages that

a device is required to receive at a time, as explained by Iwamura.

Conclusion

Examiner's note: Examiner has cited particular columns and line numbers in the

references as applied to the claims above for the convenience of the applicant.

Although the specified citations are representative of the teachings of the art and are

applied to the specific limitations within the individual claim, other passages and figures

may apply as well. It is respectfully requested from the applicant in preparing responses,

to fully consider the references in entirety as potentially teaching all or part of the

claimed invention, as well as the context of the passage as taught by the prior art or

disclosed by the Examiner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ashok B. Patel whose telephone number is (571) 272-3972. The examiner can normally be reached on 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John A. Follansbee can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Abp
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